



AWA Newsletter

Issue 40

April 2009

Antique Wireless Association of Southern Africa

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AWA Committee:

- * President—Rad ZS6RAD
- * Technical—Don ZS5DR
- * Net Controller—Willem ZS6ALL
- * Newsletter/PRO—Andy ZS6ADY

Reflections:

I went along to the Pretoria Club flea market on Saturday 7th March and realised how good it is to be part of a group of privileged people who come from varying backgrounds but all have one thing at least in common. Amateur Radio.

I say privileged, because we really are. Not any Tom, Dick or Harry can pick up a microphone and start talking away on amateur frequencies. Nor can they walk into the presence of some pretty well educated guys and strike up a conversation with them about a subject well known to most, without being frowned upon. (Not that hams are really a bunch of prudes), but I'm sure you know what I mean.

Start to talk about an-

tenna's, radio's, satellite comms, psk, antique, slow scan TV, CW. Whatever your choice of topic you are sure to have at least three or four people listening or joining in the conversation.

Put a few things on a table to sell and you are bound to have the guys beating a line there to see what items of interest you have to dispose of. Maybe not all will buy, but there will be another topic for discussion about whatever it is you have on the table.

To me, the nicest thing about the flea markets is meeting old friends. Seeing the faces again. Sharing a few good jokes. Talking radio. Then leaving there with a feeling of satisfaction, that it was all well worth it.

Who cares if I didn't buy anything. As Willem always says, "What will I do with it, where will I put it?"

There is definitely a camaraderie that exists between all radio Amateurs, no matter how much they bicker and squabble with each other. When push comes to shove, I believe they are always there for each other and for the good of the cause.

There are some that have done it all, and some that are just beginning. Others are stuck somewhere in the middle, but there will always be Amateur Radio and those who drive it. Every time you pick up a microphone to talk, you become an ambassador.

Best 73

De Andy ZS6ADY

IAN ZL2AIM



Ian, ZL2AIM sent us some news about working QRP from every place that he can, including his garden and study. Ian's favourites are to go down to the beach and put up a buddy pole and work as many stations that come back to him, as well as enjoying the view that's available to him.

Ian was a great proponent of the AWA when he lived in Durban and was responsible for arranging the space on Highway's web site for our manuals to be placed.

What's amazing is how easy it is to communicate by email and it feels like he is still actually here in SA. The Internet has certainly reduced the world for us in to a very small space. When the bands aren't working, email is.

Thanks for all the support Ian.

CW Net:

What a difference. From one weekend of so many CW stations on freq to the next when there were only 3.

I had hoped the CW activity day would encourage some of our more intrepid CW operators to keep the old key going and look forward to the next contacts, but I was seriously mistaken. I suppose the poor band conditions are really playing more a part in this than what we care to think about. There is nothing more frustrating than not being able to hear a station that is only 120km away on 40m.

Om John ZS6JBJ has certainly been trying his level best to get in to the CW net, but conditions are always against him. John, we have heard you trying, so don't give up yet.

For some reason our East/West propaga-

tion seems to be terrible. Maybe some of the boffins out there could explain that to me, but Div 5 really remains elusive in these trying times, as does the Western Cape.

Be that as it may, we still meet on a regular basis giving each other a CW fix as Pierre ZS6BB would call it and warming up the ether.

Pierre is looking for any old keys that you might be wanting to get rid of for his collection, so if you got something along those lines, look out for him on frequency or email him with your details.

73

De ZS0AWA/CW-



2 of a Collection of Straight Keys—ZS6ADY



SSB activity:

So the bands are still not that great. Has that stopped you from sitting down at your rig and calling CQ ? Has it stopped you from listening out on the bands to hear if there is any activity out there ? Has it stopped you from calling in on the SSB net on a Saturday morning ? If you can answer yes to any of these, then I must ask my next question. Why ?

So big deal, there aren't so many guys out there because conditions are so bad. Just think, if you were on frequency, that would be one more person out there. The bands really are not that bad. One can still get 5/9

reports even with a lot of the noise. One can get 5/1 reports when there is no noise. The fact is, we can still be heard. There are times when I have to put my earphones on to hear what the other station is saying, but if that's what it takes, then so be it.

One of these days the 40 meter band is going to open up a whole new segment to us that have been complaining for years about getting it. If we aren't there to occupy the space, then I don't think we will have it for very long.

For many years I have listened to hams saying we need to occupy the bands otherwise we

are going to lose more and more frequency space. The time has come for us to start taking back the bands that have been given to us.



AR88 by RCA—George ZSL505

AM:

A fair amount of activity on AM during the course of the month. Great to hear Munro ZS5IN and Garnett ZS5ZT on AM with us.

Saturday mornings still prove to be the best time for playing AM and a regular group of about 5 or 6 call in. Nice to have Barney ZS6BLL back in the group after a short break in the hospital.

With winter fast approaching, the summer storms will start to disappear and the bands will become a lot quieter, then maybe we will be able to get the

Wednesday evening sked operational again.

There have been a few promises of new stations joining the AM group with home brew rigs, and we look forward to hearing them call in too.

Our furthest station North OM Leon ZR6LLS has called in on the odd occasion and we look forward to hearing him up on his Hallicrafters.

Remember, you don't have to be operating antique rigs to call in on the net.

Read our Mission statement again on the back page. All are welcome, so come and be part of the fun operating in Antique Mode.



Some more of George's collection

Restoring a BC-348 Receiver

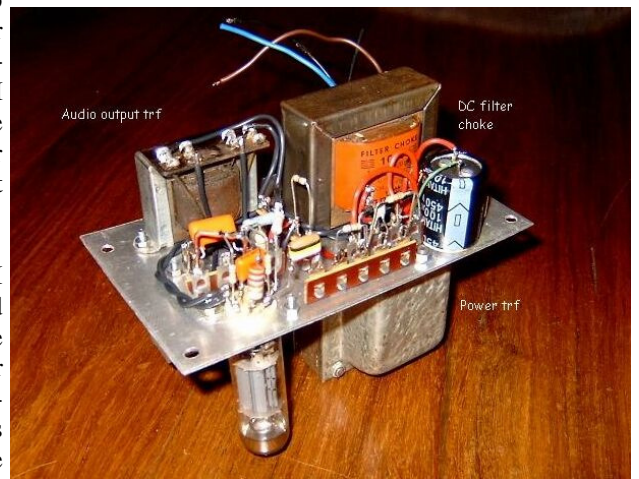
By Evert ZS6AQW



This receiver was used by the US air force in WW2 and came with a genemotor and the valve filaments connected in a series-parallel arrangement for the 24 Volt batteries in the aircraft. When I got this from OM Snowy ZS6CCF, it was minus the sub-chassis carrying the genemotor and the audio output valve. The front was also quite battered so I decided to replace it.

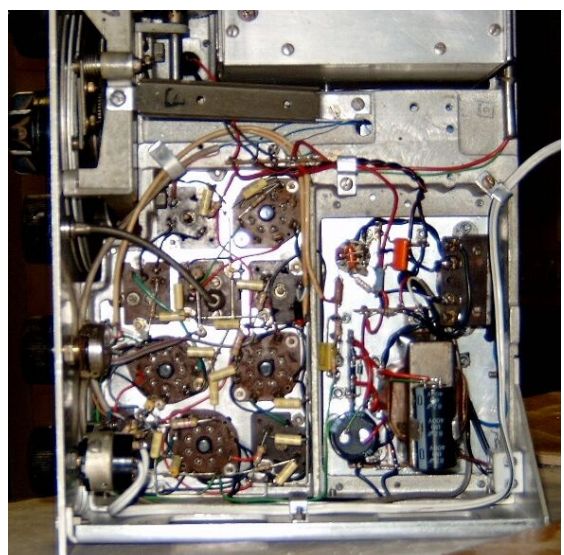
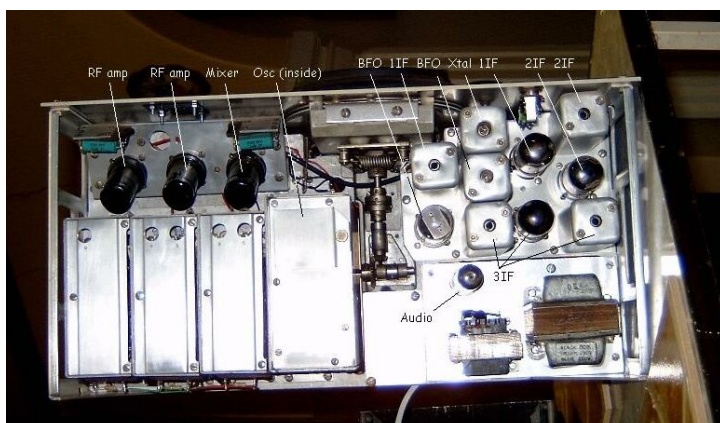
The first thing I did was to strip everything out but I mean everything. I then used caustic soda to get the aluminium parts clean and bright and then reassembled everything. I got an aluminium plate for the front and used the old front plate as a template to make all the holes in it.

Using a circuit diagram that I think I got from OM Barrie ZS6AJY, I then wired it up again. The space where the genemotor used to be was used for a new subchassis. On this I mounted two miniature double triodes and two small transformers for the power supply, one for the heaters, and one for the HV. I first tried an audio-based S-meter using one of the triodes but it wasn't very good. So I abandoned the S-meter and remade the subchassis using a miniature triode/pentode valve for the audio. This created space for a filter choke. The hole in the front plate for the S-meter became an air vent for the RF amplifier and mixer tubes that are located there.



The receiver has two RF amplifier stages followed, in the version I have, by a mixer tube which is fed by a separate oscillator tube. I used 6SG7 remote cut-off pentodes for the RF amplifiers as they have AGC, a 6SJ7 pentode for the mixer, and a 6C5 (the last one I had) for the oscillator. The IF is 915 kHz and I made it to have three IF amplifier tubes type 6SG7 and a separate BFO tube type 6J5. The IF train is followed by an OA70 diode detector and the triode/pentode type ECL86 audio section. The power supply uses 1N4007 diodes. Apart from the solid state diodes and the improved audio, the receiver is not too different from the original. It has heaps of sensitivity.

It has been a pleasure to make this old warhorse come back to life. It is a bit dodgy to tune the BFO for SSB reception, but you soon get the hang of it. I still want to make one change. The hole for the pilot light is going to take a switch for muting and then it will be completely user-friendly.



WHAT'S IN A NAME?

by Richard ZS6TF

"If the legend outstrips the truth then print the legend" once wrote a famous editor who was motivated to sell his publications.

The heydays of radio are rich with legend, none the least surrounding the names of iconic sets of the vacuum tube era and their inventors.

The HRO is conventionally associated with Amateur radio, many still believing the folklore that the letters stand for "Ham radio operation" The truth is buried in the mists of time around 1934 when the National company successfully developed a ground based receiver for the US department of commerce called the AGS (Aviation ground station), a fairly simple superhet using plug-in coils. Transcontinental & Western airlines were unhappy with the limitations of the AGS and commissioned Herbert Hoover and James Millen of National to develop something technically superior. Naturally they wanted it yesterday and the project was so pressured it became nicknamed the HOR "hell of a rush". Just prior to the launch of the advert for the radio in the December 1934 QST magazine, it was realized that the letters could be wrongly pronounced and interpreted, so they were hastily reshuffled to become the name to endure for 3 decades.

The Racal RA17 is equally enigmatic and one could be forgiven for embarking on a research project to seek out the previous models RA1 to RA16, but the truth is such models are non existent. In the early days, Racal manufactured amongst other things, golf clubs and warehouse racking to stay in business. Contemporary opinion was that Racal stood for Radio calibration company because in the 1950's their business in a small works located in Isleworth, a stone's throw from Heathrow, undertook repairs and recalibration of airborne radios, which was a bread and butter business bringing Racal in contact with the technologies of Marconi, Bendix, Collins, RCA and others.

Raymond Brown and Calder Cunningham both left Plessey in 1950 and founded Racal as a two-man consulting firm in 1950, the name being derived from the partners names, **RAY**mond Brown and **CAL**der Cunningham. Seven years passed before Racal marketed its first proprietary product, a high-frequency radio receiver, almost a lucky accident. Believing that they had secured Collins' backing, Racal successfully tendered for Royal Navy contract to build and supply a variant of the American Collins Model 51-J4 Radio Receiver. When Collins realised it was for real, they inspected the Racal facilities and decided (reneged?) not to grant a licence to Racal for manufacture.

This meant that Racal had to build a new radio receiver from scratch in a very short time, designed in cooperation with South African Dr. Trevor Wadley and utilising his famed Wadley loop drift cancelling circuit. There were quite a few problems with spurious responses in the prototype models, this was cured, apparently, by band sawing one of the sets in half. In production models the 1st and 2nd VFO's are in separate units, and although they are bolted side by side on the main chassis, this eliminated the problem.

A demonstration was made of the prototype receiver to the Royal Navy explaining the obviously hand made nature of its construction as an advantage as the Navy could include features that they had not put into their specification for final production. The Navy were suitably impressed with the leap forward in technology. Providing that Racal could make the sets for £300 each, and with the same specification, then an order for several hundred radios was theirs. The specification caught the attention of other UK government agencies, notably the British radio surveillance organisation, known as G.C.H.Q. then still based at Bletchley Park, which resulted in the restriction of sales under the Official secrets Act for a while, suitably starving the Americans, however there were more than enough orders for Racal as it became the UK government standard ground station receiver for the next decade or two.

This set was the RA17, (well they couldn't call it number one could they!)

As a footnote the Collins 51J4 was the pinnacle of mechanical excellence in receivers with unbelievable indulgence in complexity, profiled snail cams and ganged dust-core assemblies, with the objective of 2 knob operation. When Collins realized their tactical error they began a campaign of knocking the 4 knob operation of the Racal equipment, however fortunately the operators thought differently.



RACAL RA 17L (Photo RigPix)

MESSAGES FROM FAR AND WIDE:

Hi Andy from the land of the long white cloud...
I would like you to add in to your next newsletter;

You say in the newsletter "I have a lot to be thankful for in the world of Amateur Radio, with some awesome friends out there willing to spend time chatting with me. I just hope you are one of them ?" Please note that even if you and I don't communicate by bent key, paddle, or straight key, we do communicate via the AWA newsletter, I certainly know that I am one of a band of great enthusiasts. My two Heathkit Hot Water 100's are in the Cape and my Drake I think is in Harrismith. And yes, please consider me one of your friends!

Most nights I am in my study in Hikuai and try and make at least one contact. My main aim is to have a ragchew with a person that I have not worked before, but it is not always so. If propagation favours countries that are not English speaking, I can hardly expect a ragchew, but I then get the added kick of seeing how many kilometres they are from my station.

Last night I had the pleasure of working Bosnia Herzegovina (twice), Hungary, Italy, Bulgaria, Slovenia and France all between 17,000 and 19,000 kms away from here. All were on 40 meters using 100 watts from my Kenwood TS570 and my funny shaped G5RV antenna. My paddle is a chrome plated Vibroplex. After the second station from Bosnia worked me, he put me on the cluster and then of course you get a load of stations calling. I still get a bit flustered when lots of stations are calling at once, and my heart says to work them all, but the reality is that I just work a few and then move to a different part of the 40 meter band. I can not say why, but I still stick to 40 meters, even though my G5RV can work most bands. I think it is a habit from my qrp days of the TenTec 1340. But it is my band of choice as it works for me..

Congratulations to Charles ZS1CF. He certainly was a good operator when I used to work him. He was not shy to ask you to QRS when I went a bit too fast for him on our SKN. That is good. There is no point in having a ragchew when one station is battling to read due to speed. My guess is that a lot of new operators would love to ask the other station to QRS but are too shy to do so. (I was never too shy!) Also congratulations to Pierre who stuck to his guns on QRP. Another fb operator. To those of you who organised the event I congratulate you. To get 28 people on CW in SA is really great. I hope it goes from strength to strength. Now all you have to do is pull another 28 out of the woodwork. They are there - you just have to encourage them. Maybe you could incorporate a gentlemen's rule for the event that each station MUST work the other station at the slowest station's speed. So if Joe was at 5 wpm, and Fred at 25 wpm, then Fred must slow down to 5 wpm to make the contact. I suspect that there are many CW operators in SA who are just too embarrassed to call due to their slow speed of reading. I think that you should have awarded double points for any body who worked ZS0AWA..... (seriously!)

Now to Adrian ZS1TTZ's key. He told me that "It's the same key I used to use on the Monday evening SKN net, simply because it was the only one I had, but it looked like junk, I flipping treasure this thing now !! I still need to sand down and varnish the knob, will probably do that during the week, I was going to stain it a darker brown but now I've thought about it I think a sanding and clear varnish would look best. The base looks okay and as you can probably see it's stuck down to the desk with double sided tape anyway so I'll leave that. Interestingly the brass plaque on the front reads "Wireless Telegraph CO. Durban" and the serial number is 0001 ... I wonder who's got S/N 0002 and above and what its history is?" That really sounds like an interesting key!

Anyway to all my friends in SA whether users of bent keys, straight keys, paddles, or microphones, cheers from ZL2AIM.

Greetings Andy

At a recent meeting of PEARS, I picked up a reasonably good looking Geloso 4/102 VFO, on a chassis (of sorts) in fact it is a complete but very scruffy cw tx.

I have been on the lookout for one of those VFO's for many years always hoping to re-create my very first transmitter. I was then ZS5SG, the year 1956. The first tx was for cw only and had a single 6145 as a final. After my compulsory 12 months on cw the tx was completely rebuilt with a pair of 6146's modulated by a pair of 6146's in class B. Eventually I built a VOX for it, which worked very well but caused quite a lot of comment, most of which reckoned that there was a broken or faulty mic/lead !!! Apparently the "S" meter jumped around quite a lot.

Ah well that was REAL ham radio days.

The receiver was a Meissener, an American radio made for the domestic market and even in those days could be purchased as a kit. Actually mine was bought at an auction room.

The radio had a slide rule dial not unlike an Eddystone. That radio served me very well and was eventually replaced with an HRO. Even that was rebuilt with a new all alloy chassis, 7 or 9 pin tubes instead of the original 5pin/ top cap sort. National would never have recognised it. Lots of fun and in those days time enough to do those projects.

Listen out for me on 7mHz on Saturdays. I now have my FL101/FR101/ FL2100Z combination ready to go. More QRM !!!

Take care Sincere regards to AWA

Barry ZS2H

Hi Andy,

I Have the following available to AWA Members:

HT/LT Mains transformer
Smoothing Chokes
Wide Spaced Capacitors
High Voltage Capacitors (Oil Filled)
Pots—Carbon and Wirewound
A vary large stock of New and Used Valves. Octals, UX based, B7G, B8A, B9A
Valve bases

Heathkit IIX20 Transmitter
Morrow mobile/base station Tx/Rx with mains PSU
Murphy B40 Rx and manuals
TS510 power supply
Sony 777 reel to reel 2 track tape recorder

For restoration:
National NC240
3 National HRO's with coils

I also have a home brew AM rig for disposal.

Contact John Norman ZS5JX 0824865280 or 031 2616534 (Durban)

Don's Technical Tip

Article 4. **Cleaning Old Left for Scrap Rigs.**

Finding an Old Rig on the scrap heap at a swap shop or in somebody's back shed can be quite a challenge to clean. I was quite horrified when I heard from some old timers that washing the Rig with warm soapy water would do the trick. Having had very little to do with Antique Amateur equipment until I joined the SAAWA a few years ago I took this with a pinch of salt and would have never put a drop of water close to a rig especially having worked on Marine radio's where we were to keep water as far away from the equipment as possible.

Well I got hold of an old transmitter that had spent a few years under a caravan and thought, lets give it a bash. I first sprayed all the dirt and dust off with the garden hose and then got hold of a bucket of soapy water a paintbrush and went to work. Well it really did the trick and the Transmitter cleaned up nicely. I left the Rig standing in the hot Sun for a few days turning it every day just to make sure that it really got dry before I started to restore the transmitter.

Be careful around transformers that you do not get water in between the laminates.

There are other methods of cleaning those old scrap heap Rigs used by Amateurs and If you have any Ideas let us know so we can include them in the Technical Tip.

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**Antique Wireless Association
of Southern Africa**

Mission Statement

Our aim is to facilitate, generate and maintain an interest in the location, acquisition, repair and use of yester-days radio transmitters and receivers. To encourage all like minded amateurs to do the same thus ensuring the maintenance and preservation of our amateur heritage.

Membership of this group is free and by association.

Notices:

KWM2-A Raffle:

This fine rig is still up for grabs and we have decided to do the draw at the Open Day in April at the Rand Airport. Donations for this draw are R50 and should you want a chance to own this 100% valve rig made by Collins, then you need to send your money, either wrapped in a plain piece of paper via snail mail, address at top of this page, (this works well and I have never lost any money yet, but do wrap it in a plain piece of A4 paper) or deposit it to my Savings account using the reference area for your "call sign" and "KWM" :

Andy Cairns
Standard Bank Benoni
Branch code 01 30 42 40
Savings Account
Acc #: 225334119



We will acknowledge receipt of all donations either by email or snail mail.

AWA Annual Open Day:

Due to the possible Closure of the TAC, the venue has had to be moved to the Midrand Lions Club situated at the Boulders Shopping Centre in Midrand. The date has also been changed to accommodate this venue to **Saturday 25 April 2009 from 09:00 the morning**. (Map included on the last page of this Newsletter). Please notify Rad ZS6RAD, 0825578459, should you require flea market tables, these will be available at the venue.

Rigs Available from Om Stan Estate:

National HRO50 with matching speaker and 4 coils.
National NC300 with matching speaker.
Yaesu FRG7 receiver.

Contact Oliver 011 468 1001; 072 117 5078 or email johnoliver@telkomsa.net

